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# Cognitive Training Effects on Capuchin Monkeys' Transfer Index Scores

The goal for this study is to evaluate how experience and practice in cognitive tasks may affect capuchin monkeys' (*Sapajus apella)* performance on a reversal-learning task, as a measure of general cognition. Performance in this task was assessed using Transfer Index scores. The Transfer Index measure ensures that all subjects are brought to an equal level of performance on the task before moving on to the reversal-learning paradigm (Rumbaugh, 1997). We predicted that capuchins' performance in the reversal-learning task would be affected by experience in other cognitive tasks. To test this idea, capuchin monkeys without any prior experience in cognitive tasks were presented with an object-choice task. Two stimuli were presented, each covering a small well. Under the S+ stimulus, a Cheerio was hidden. If the monkeys chose the S- stimulus, they uncovered no reward. Subjects were required to reach or exceed a criterion level of 67% accuracy in choosing S+ before moving on to the reversal portion of the task, comprised of 10 trials in which the Cheerio was hidden under S- rather than S+. Transfer Index ratios were calculated for each subject by measuring their accuracy in reversal trials compared to the pre-reversal trials. The same subjects then spent around six months engaged in computerized joystick cognitive training. Following this training, a post-test replicating the original object-choice task was given to the monkeys, and Transfer Index scores were calculated again. Although data analysis is still ongoing, preliminary results suggest that subjects improved from pretest to posttest. Such results would suggest that experience in cognitive testing improved scores on a task measuring general cognitive ability. Exploration of the effects of practice and experience in cognitive tasks is invaluable as such research can benefit both nonhuman animals and humans alike.

Key Terms: Transfer Index, Learning, Cognition, Capuchin Monkeys, Intelligence, Experience, Cognitive Tasks, Reversal Learning, Practice, Global Cognition Measures

References

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